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December 2002 with extensive remarks applying *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994) *reh'g denied*, and provided a copy of the case.

On 31 December 2003, the Examiner issued an advisory action that stated:

"The ... request for reconsideration has been considered but does NOT place the application in condition for allowance because:

The examiner is not arguing whether a properly claimed data structure stored in memory is functional and statutory as established in *In re Lowry*. The examiner agrees that such claims are statutory. Applicants have failed [sic] to establish how the claimed invention includes a proper recitation of a data structure stored in memory rather than a non-functional descriptive material as alleged by the examiner.

Specifically, the data stored in memory as claimed in independent claim 1 is merely the 'definitions' of an input document and an output document, comprising 'respective descriptions' of set [sic] of storage units and logical structures for the set of storage units. The stored data is 'not the actual data structure' for performing the business transaction."

Applicants' counsel does not understand what argument the Examiner is making and sought clarification by telephonic interview.

Report of Attempted Interview

On 13 January, communication was undertaken with Primary Examiner Joseph H. Feild, who signed the advisory action. However, he explained that he merely signed the action and suggested talking to Primary Examiner Stephen Hong, who had supervised response in this case.

On 14 January, communication was undertaken with Primary Examiner Hong. Applicants' counsel sought clarification of the Office's application of *In re Lowry* to these claims. Counsel read the passage above, which is the Office's entire response to two papers filed by applicants, about six pages of discussion of *In re Lowry*. Primary Examiner Hong did not have the file and declined to discuss any specifics of the case. He suggested a three-way interview including Examiner Huynh and a member of the statutory panel that offers advice to examiners regarding section 101 issues. When asked for a name of a person on the panel, he suggested interviewing with Examiners Huynh and Jack Harvey.

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On 15 January, communication was undertaken with Examiner Huynh, who was engaged in a face-to-face interview. A time was set at which to discuss scheduling an interview. Counsel was 30 minutes late calling. He left a message apologizing and asking for another chance to discuss scheduling a three-way interview. The Examiner responded with a message declining to conduct a further interview. Counsel and Examiner spoke on 16 January and counsel personally apologized for being late calling the Examiner. Nonetheless, the Examiner declined to conduct an interview.

Response to Advisory Action – Section 101 Rejections

The Examiner's preparation of an advisory action is appreciated. It forms some common ground for applying *In re Lowry*, which is the controlling case. However, counsel still does not understand how the Examiner interprets and applies *In re Lowry* to independent claim 1.

The claim at issue in *In re Lowry*, like claim 1 of this case, was a apparatus claim, not an article of manufacture claim. 32 F.3d 1579, 1581 (Fed. Cir. 1994). In an article of manufacture claim, a computer code or program often is embedded in a machine readable memory. In *In re Lowry*, the claimed apparatus was not an article of manufacture, but a device or part of a device. A data structure was resident in memory, including information resident in a database that was accessible to and used by an application program. The data structure that was claimed defined how other data objects interrelated. The claim did not include an particular application program or any method steps. The data structure was functional because it defined data relationships among other data objects.

The court in *In re Lowry* described its analysis on page 1583:

"Lowry's ADOs do not represent merely underlying data in a database. ADOs contain both information used by application programs and information regarding their physical interrelationships within a memory. Lowry's claims dictate how application programs manage information. Thus, Lowry's claims define functional characteristics of the memory.

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... the claims require specific electronic structural elements which impart a physical organization on the information stored in memory. Lowry's invention manages information. As Lowry notes, the data structures provide increased computing efficiency."

From this passage, the rule emerges that a data structure accessible in memory (see, section 2106 of the M.P.E.P., page 2100-12) is patentable subject matter when it contains both information used by application programs and information regarding physical interrelationships within memory. That is, a data structure accessible in memory is functional if it dictates how application programs manage information.

It should be clear that program code or method steps do not need to be part of what is present in memory, to have patentable subject matter. The claim set forth on page 1581 of *In re Lowry* does not include program code or method steps. It is not an article of manufacture.

For reference, Applicants' independent claim 1 reads:

"1. An interface for transactions among nodes in a network including a plurality of nodes which execute processes involved in the transactions, comprising:

a machine readable specification of an interface to transaction processes stored in memory accessible by at least one node in the network, including interpretation information providing a definition of an input document, and a definition of an output document, the definitions of the input and output documents comprising respective descriptions of sets of storage units and logical structures for the sets of storage units."

Applying the rule from *In re Lowry*, Applicants can state that the claimed machine readable specification stored in memory of an interface to transaction processes, including interpretation information providing definitions of an input document and an output document, "do not represent merely underlying data in a database." The claimed interface specifications "contain both information used by application programs and information regarding their physical interrelationships within a memory. [These] claims dictate how application programs manage information. Thus, [these] claims define functional characteristics of the memory."

In one environment in which the claimed invention is useful, an application program may access a claimed machine readable specification, in memory, and use the interpretation

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information as a basis for arranging information in memory to create an input document for the transaction process. The application program also accesses the machine readable specification as a basis for understanding the physical interrelationships within memory of an output document from the transaction process. The machine readable specification and interpretation information dictate how application programs that interact with the transaction process manage information. The machine readable specification and interpretation information define functional characteristics of the memory used to input documents to and output documents from the transaction process.

This discussion establishes that the claimed invention includes a proper recitation of a data structure stored in memory, consistent with the functional characteristics that the court emphasized in *In re Lowry*. We have quoted passages from the court's opinion. We have applied the court's words to the claimed invention. We have explained how the claimed invention is consistent with the functional characteristics of an in-memory data structure that the court emphasized in *In re Lowry*. By doing this, we have established that the claimed invention includes a proper recitation of a data structure stored in memory.

Applicants respectfully request that if the Examiner disagrees, that the Examiner should respond by quoting passages from the controlling legal case and apply those passages to the words of Applicants' independent claim 1. That will place the case in better condition for appeal, as the office has not yet taken any position on how the rule of *In re Lowry* applies specifically to this claim.

Section 112 Rejections

With this understanding of *In re Lowry*, the Examiner's rejection under section 112 second paragraph can be addressed. The examiner's stated basis for rejecting independent claim 1 is that no method steps of how the interface works are included in claim 1. On page 3 of the final office action, the Examiner wrote, "[T]here is nothing about the steps of how the interface works." Under *In re Lowry*, there is no requirement to have method steps in a data structure in memory claim. If a data structure in memory claim is to be categorized in view of *In re Lowry*, it should be characterized as an apparatus, not a method or article of manufacture. There is no need for a data structure in memory claim to include steps or programming code.

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The Examiner's section 112 rejection of claim 61 (a method claim) is similar, but without any statutory 101 rejection. In the final office action, the Examiner withdrew the section 101 rejection regarding claims 61-72. Inexplicably, despite having withdrawn the section 101 rejection, the Examiner wrote, "[T]he limitations of the claims do not show how the programming of a commercial transaction works."

Section 112 second paragraph does not require that Applicants claim method steps that show how programming of a commercial transaction works. *Lowry* did not include any method steps as part of his data structure in memory claim. *Lowry* mentioned in claim 1 that an application program could access his data structure in memory (32 F.3d at 1581), but *Lowry*'s claim 1 did not any mention of any step that the application program would carry out. It did not say what kind of application was involved, just a generic application. Following the model of *In re Lowry*, which the Examiner has accepted in the advisory action, there is no requirement under section 112 to include as part of a data structure in memory claim any step that would limit the claim to how a particular commercial transaction works. Applicants' claim 1 already includes as much reference to a transaction process as *Lowry* made to an application program in the claim that the court approved. Applicants' invention is defined by the claim. The claim is agreed to cover statutory subject matter. Section 112 does not force the Applicants to add method elements to the claim that Applicants do not regard as being necessary to their claimed data structure in memory invention. Therefore, Applicants' independent claim 61 satisfies the requirement of section 112 second paragraph without any need to tie the data structure in memory to any particular commercial transaction or transaction processing steps.

Applicants respectfully request, if Examiner disagrees, that the Examiner cite a passage from a case or a passage from the M.P.E.P. that is relevant to data structure in memory claims and apply the court's words to claim 61.

Renewed Request for Three-Way Interview

Prior to the advisory action, Applicants specifically requested a three-way interview including a member of the "101 panel" in the conclusion of the Interview Report and Response to Final Official Action mailed 4 December 2002. During the attempted interviews described above, Primary Examiner Hong suggested a three-way interview with Examiner Jack Harvey.

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Therefore, Applicants renew their written request, to which no response was given, that a three-way interview be conducted including one of the section 101 advisers, for the specific purpose of understanding the office's application of *In re Lowry*.

Renewed Request to Withdraw Finality

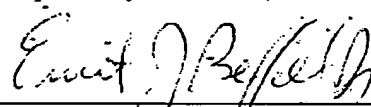
In the last communication, Applicants requested withdrawal of finality, in part because the office had not taken any position on application of *In re Lowry* to this case, despite Applicants having cited the case prior to imposition of finality. The office action imposing finality did not discuss *In re Lowry*. Even after the advisory action, further discussion of *In re Lowry* is necessary to develop the office's position prior to any appeal.

Applicants respectfully renew their request for withdrawal of finality.

CONCLUSION

It is submitted that the case is now in condition for allowance. If the Examiner disagrees, imposition of finality should be withdrawn to permit further prosecution. A three-way interview with the Examiner and her section 101 expert is again requested. The undersigned regularly can be reached between the hours of 8:30 a.m. and 5:30 p.m., PST, excepting lunch hour, at 650-712-0340.

Respectfully submitted,



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